



# STEPS

Stem Cell Therapies Equal Positive Solutions



# **COST EFFECTIVENESS OF REGENERATIVE MEDICINE**

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**2018 LDI Annual Health Care Conference**

# **STEPS Goals**

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**STEPS  
FOR  
SIF AND  
WORKERS'  
COMP**

- 1) To review the current state of orthopedic / musculoskeletal injury patient flow**
- 2) To outline current difficulties within the process**
- 3) To introduce the concept of Interventional Regenerative Orthopedic Medicine (IROM) and how it can assist patients and companies**

# STEPS Objectives

**STEPS  
FOR  
SIF AND  
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COMP**

- 1) By end of the session, to understand the current state of orthopedic / musculoskeletal injury patient flow**
- 2) To describe how regenerative medicine or IROM can improve patient health, expedite their return to work, and improve the company's bottom line**

# Case Study 1

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**Patient A: 35 year old female  
with lower back pain**

**STEPS  
FOR  
SIF AND  
WORKERS'  
COMP**





# Case Study 1

**Patient A: FAILED THE TREATING PHYSICIAN'S  
CONSERVATIVE TREATMENT PLAN**

**STEPS  
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**SURGERY?**

**IROM  
INTERVENTIONAL  
REGENERATIVE ORTHOPEDIC  
MEDICINE**

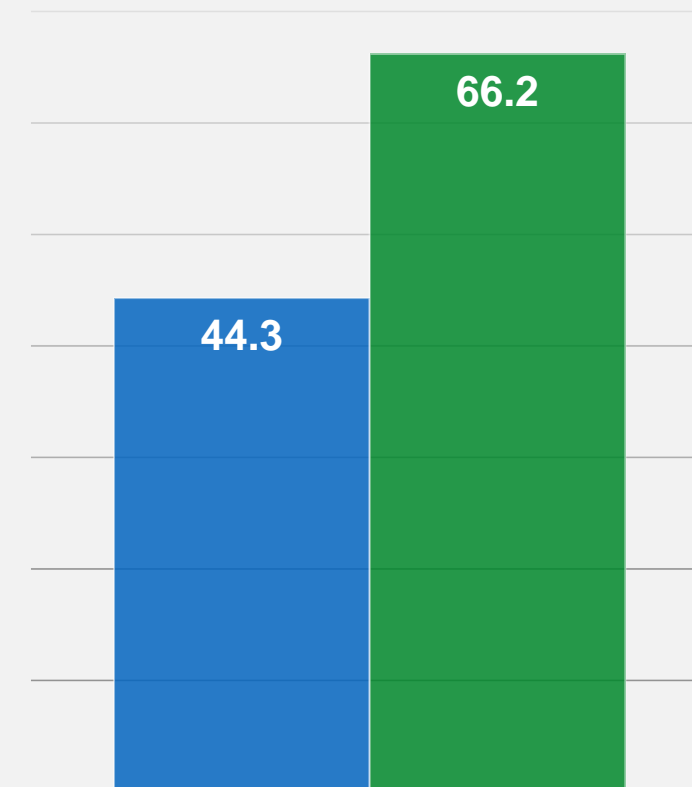
# FOR SELF-INSURED EMPLOYERS AND WORKERS' COMPENSATION CASES

## STATE WORKERS' COMPENSATION COSTS

**THE  
PROBLEM**

**RISING  
COSTS**

From fiscal year  
2006 to 2013, workers'  
compensation costs have  
**increased by 49.4%**  
from \$44.3 million  
to \$66.2 million



**For state employees,**  
the average duration of  
temporary total disability  
benefits was  
**73.2 weeks**

*Louisiana has higher indemnity costs than other southern states because it  
**DOES NOT LIMIT** how long individuals can receive temporary total disability benefits.*

# FOR SELF-INSURED EMPLOYERS AND WORKERS' COMPENSATION CASES

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## STATE WORKERS' COMPENSATION COSTS

### THE PROBLEM

### DELAYED RETURN TO WORK

Overall, we found that the high cost of workers' compensation is due, in part, to unlimited temporary total disability benefits, **an increase in the amount of time workers are off the job**, the use of an outdated fee schedule to reimburse medical providers, the lack of a prescription drug formulary, and a costly dispute resolution process.

Louisiana Legislative Auditor / Daryl G. Purpera  
Workers' Compensation Costs in Louisiana / February 4, 2015



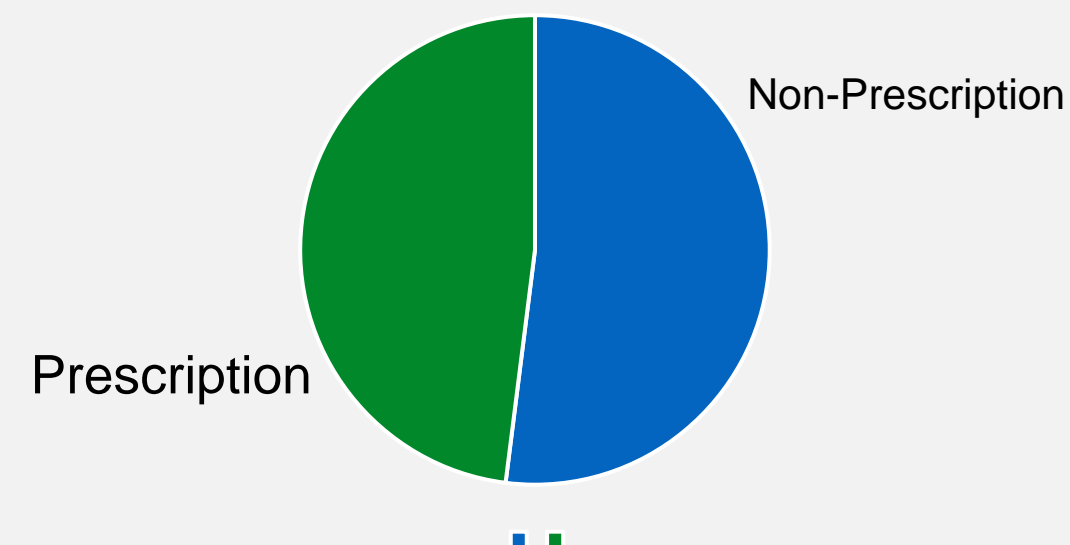
# FOR SELF-INSURED EMPLOYERS AND WORKERS' COMPENSATION CASES

## PRESCRIPTION OPIOID USAGE

### THE PROBLEM

### PRESCRIPTION OPIOID EPIDEMIC

Nearly half of all U.S. opioid overdose deaths involve a prescription opioid



Each day in the U.S.,  
more than

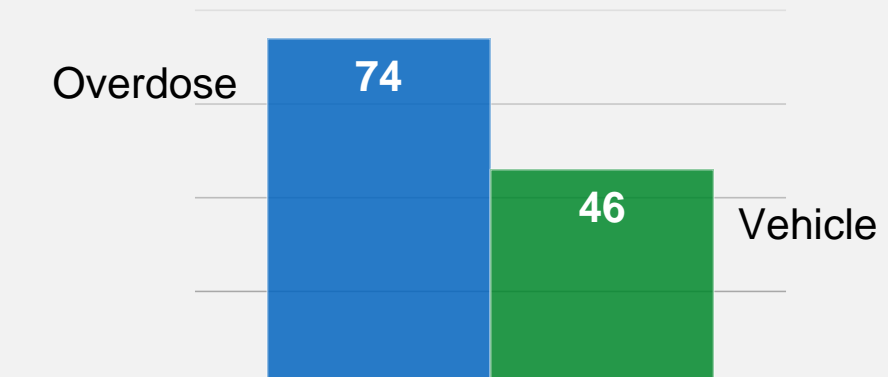
**1,000 people**

are treated in emergency departments for not using prescription opioids as directed

In 2016, East Baton Rouge Parish overdose deaths

**EXCEEDED**

motor vehicle deaths



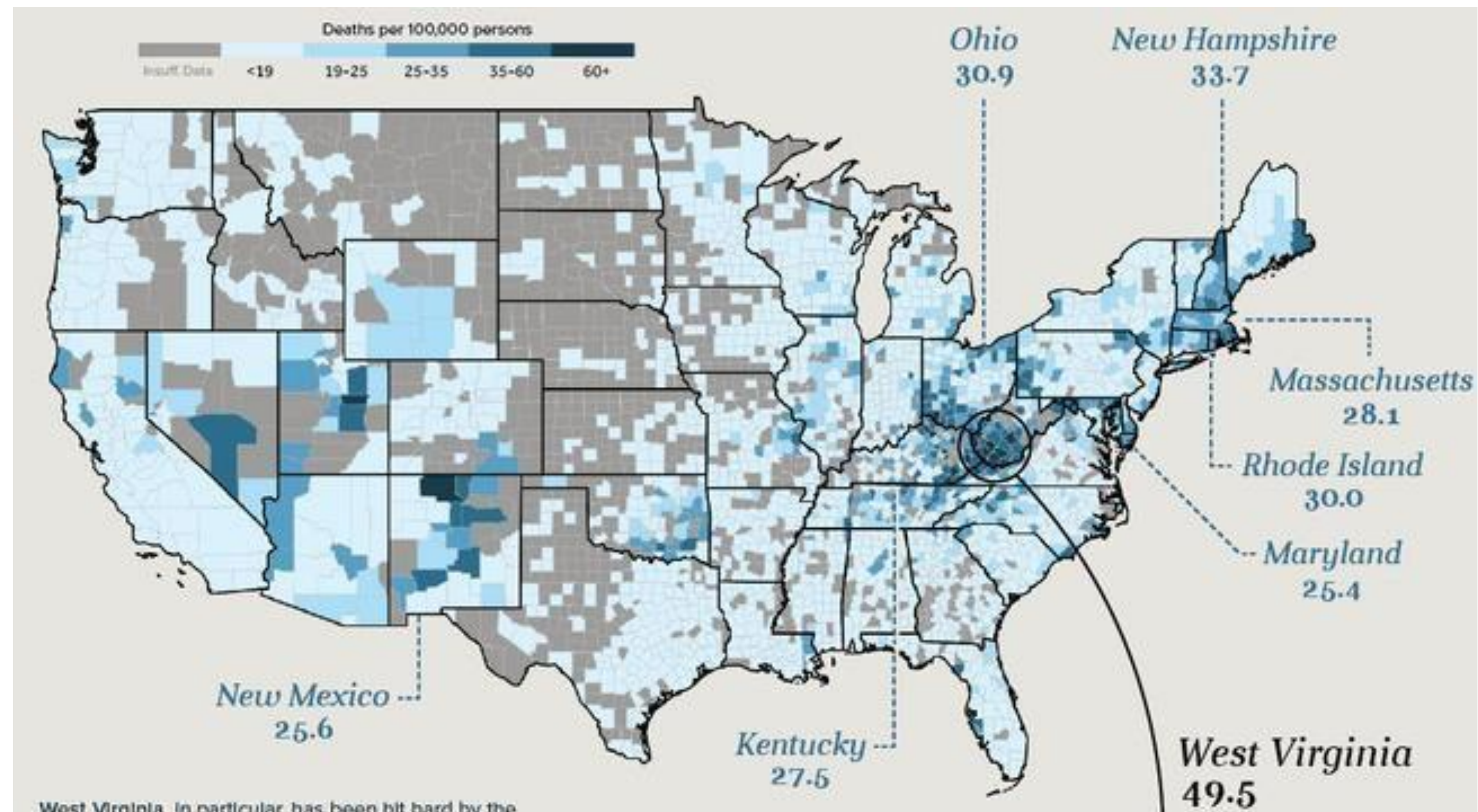
In 2013, Louisiana ranked **FIRST** in opioid prescribing according to the CDC Morbidity and Mortality Weekly Report

# FOR SELF-INSURED EMPLOYERS AND WORKERS' COMPENSATION CASES

## PRESCRIPTION OPIOID USAGE

THE  
PROBLEM

PRESCRIPTION  
OPIOID  
EPIDEMIC







## IROM Utilization in Treating Musculoskeletal Pain

The use of these Regenerative Orthopedic Interventions have been previously shown to:

### STEPS FOR SIF AND WORKERS' COMP

- Increase employee satisfaction with improved choice.
- Allow for the opportunity of natural healing of the condition without invasive / traumatic surgery.
- Improving patient's pain.
- Improving patient's function.
- Increasing patient's ability to return to work.
- Improving cost savings to the company/employer.

# What are some of these IROM techniques which can replace surgery?

## 1. Ligament-Stabilization Procedures:

- a. Utilizes proliferative substances to tighten ligaments.

## 2. Growth-Factor Injections:

- a. **Autologous Growth Factors:** Platelet-Rich Plasma, aka “**PRP**” = Growth-Factor

Injections: utilizes the patient’s own blood growth factors to heal injuries.

- b. **Allogenic Growth Factors:** Amniotic Membrane Growth-Factor injections, aka “Amnio”: utilizes extracted placental growth factors from the amniotic membranes of human placentas.

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## What are some of these IROM techniques which can replace surgery?

### 3. Stem Cell Therapy = Bone Marrow Aspirate Concentrate, aka “BMAC”:

utilizes the patient’s own stem cells harvested and isolated from their bone marrow cavity.

### 4. Ultrasound-guided Neuroplasty/Hydrodissection of Impinged

Nerves, aka “Nerve Fracking”: utilizes the patient’s own blood products (called Platelet Lysate) to release and heal nerves damaged by impingement and/or scar tissue.

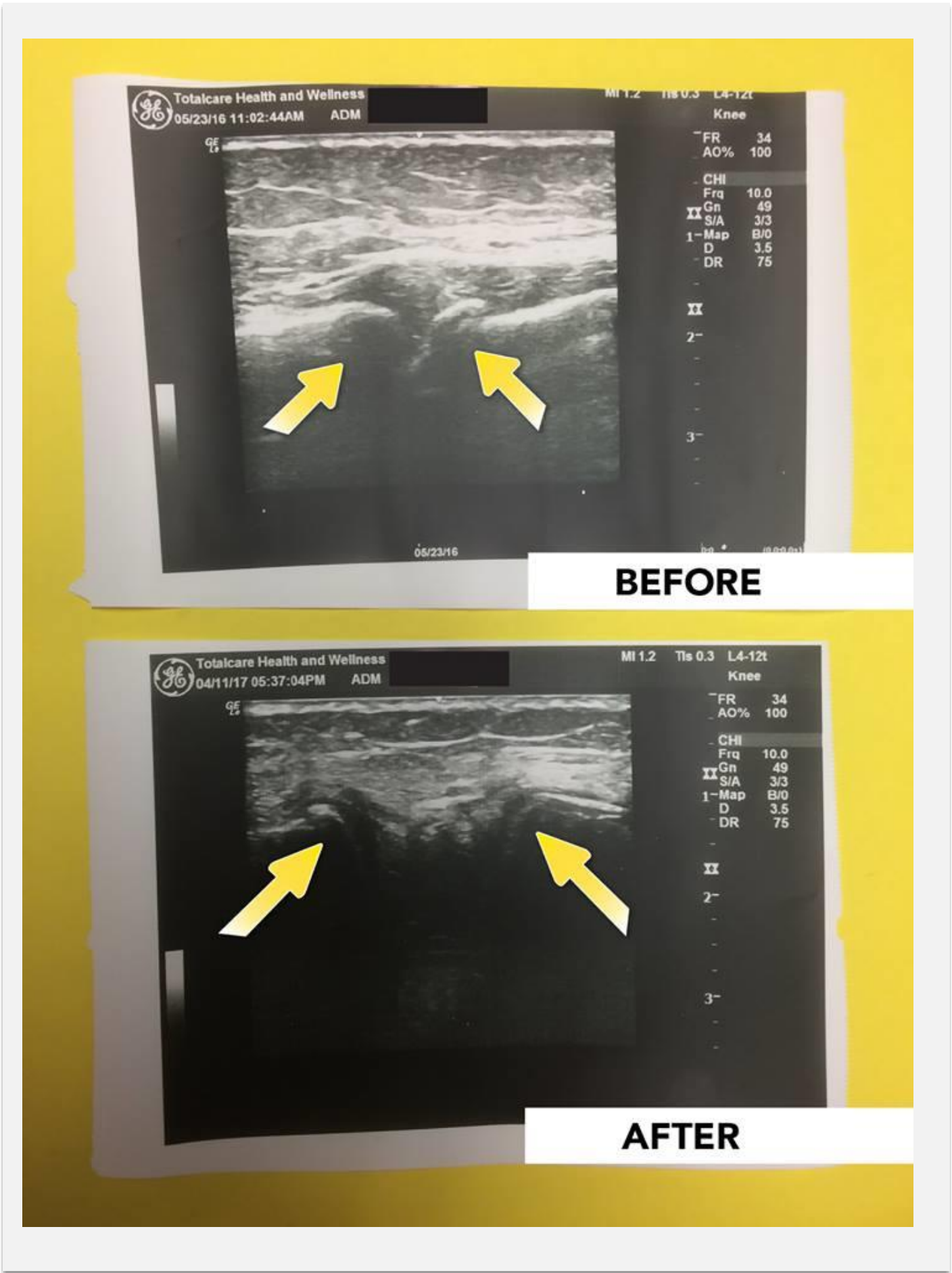
### 5. Ultrasound-guided Percutaneous Tenotomy & washout, aka

“PNT/Prolo”: utilizes directed visualization under Ultrasound to stimulate healing and avoid more invasive surgery.

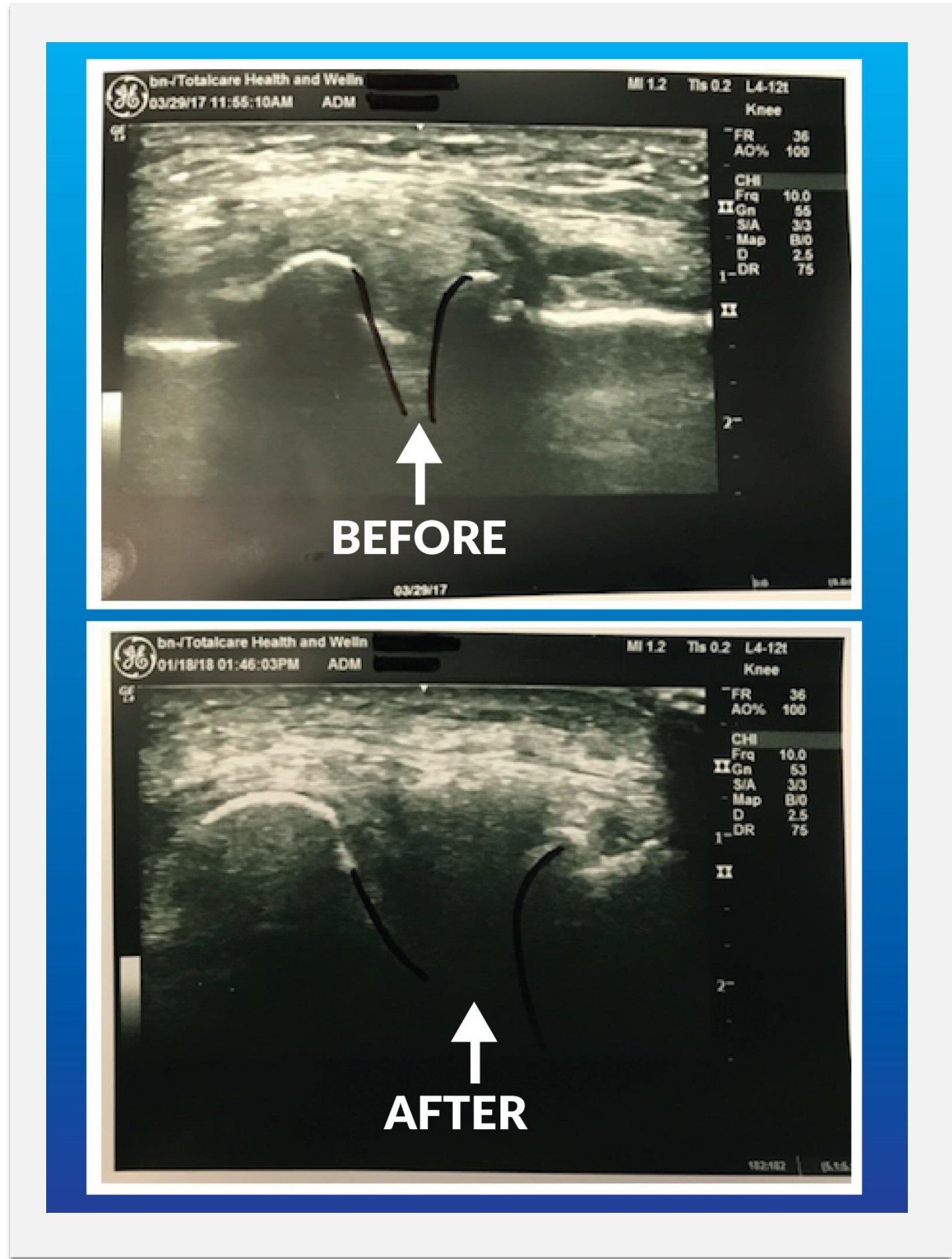
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**STEPS  
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Regenexx AD stem cell procedures yielded these before and after photos of two different patient's knees.



Notice the difference in the meniscus between the two bones and the substantial reduction of bone-on-bone activity.



# Case Study 2

**Patient B: 50 year old male with  
right knee injury**

**STEPS  
FOR  
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# Case Study 2

Patient A: **FAILED THE TREATING PHYSICIAN'S  
CONSERVATIVE TREATMENT PLAN**

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**SURGERY?**

**IROM  
INTERVENTIONAL  
REGENERATIVE ORTHOPEDIC  
MEDICINE**

**STEPS / IROM  
in Action:  
2015 - 2016**

# **The Iowa Study**

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**A. Fortune 500 Company (MEREDITH) – Des Moines, Iowa**

**B. 3900 employees**

**C. Presented the study / concept - understood and decided to proceed.**

**D. Injured employees offered the choice of the recommended surgery or IROM procedure.**

**E. Year 1 (2015-2016): 125 employees elected IROM over surgery – results follow:**

**1) Spinal / Laminectomy / Fusion – 9 patients**

**2) Knee / Meniscus – 53 patients**



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# Spinal / Laminectomy / Fusion

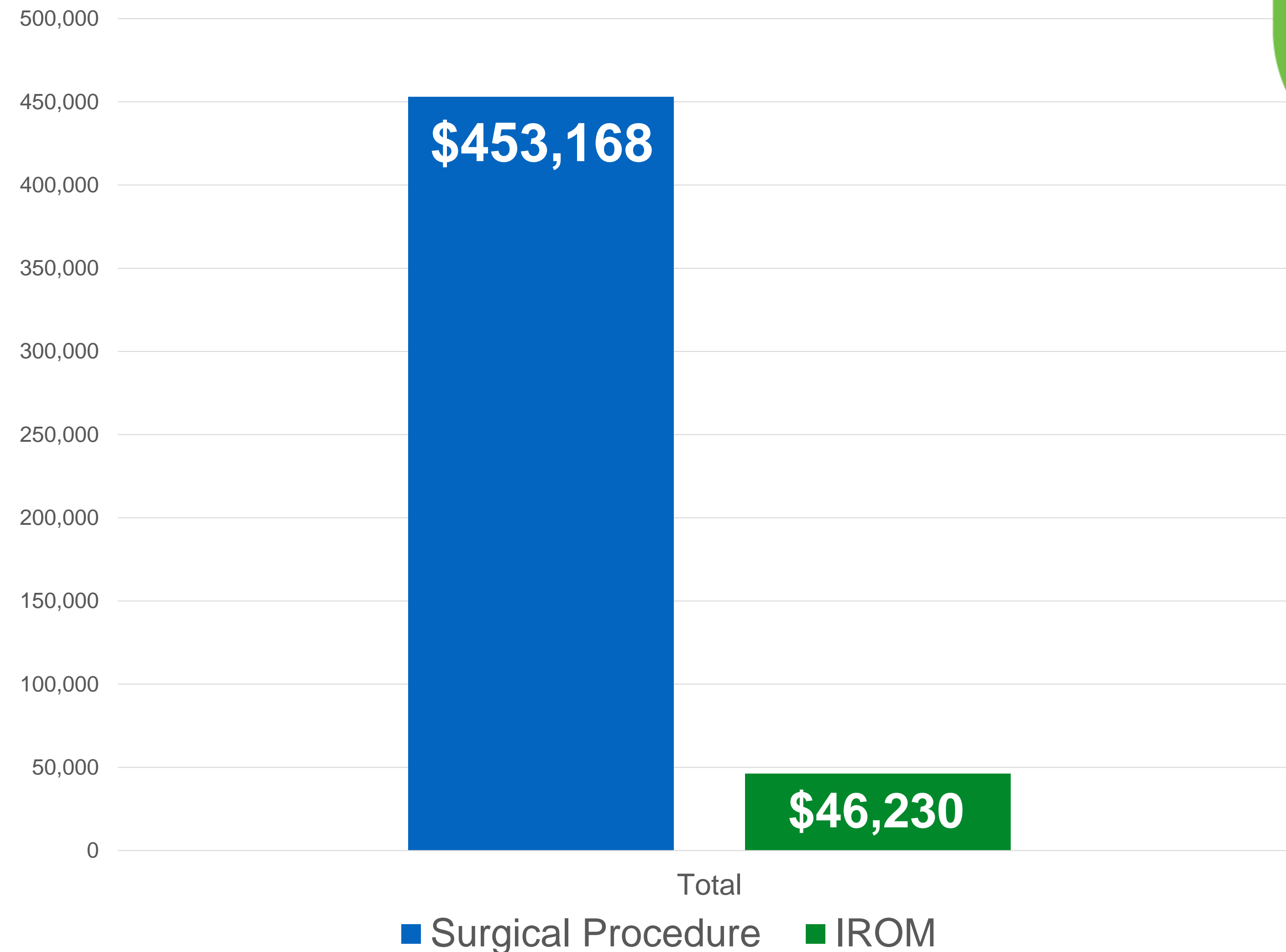
## Orthopedic Surgery Costs vs. IROM Costs

### SUMMARY

The Iowa Study  
Actual Savings  
by Adding  
STEPS / IROM to  
Self-Insured Fund:

**1. 9 Employees avoided  
recommended surgery**

**2. Cost-savings to  
company: \$406,938**



# Case Study 2

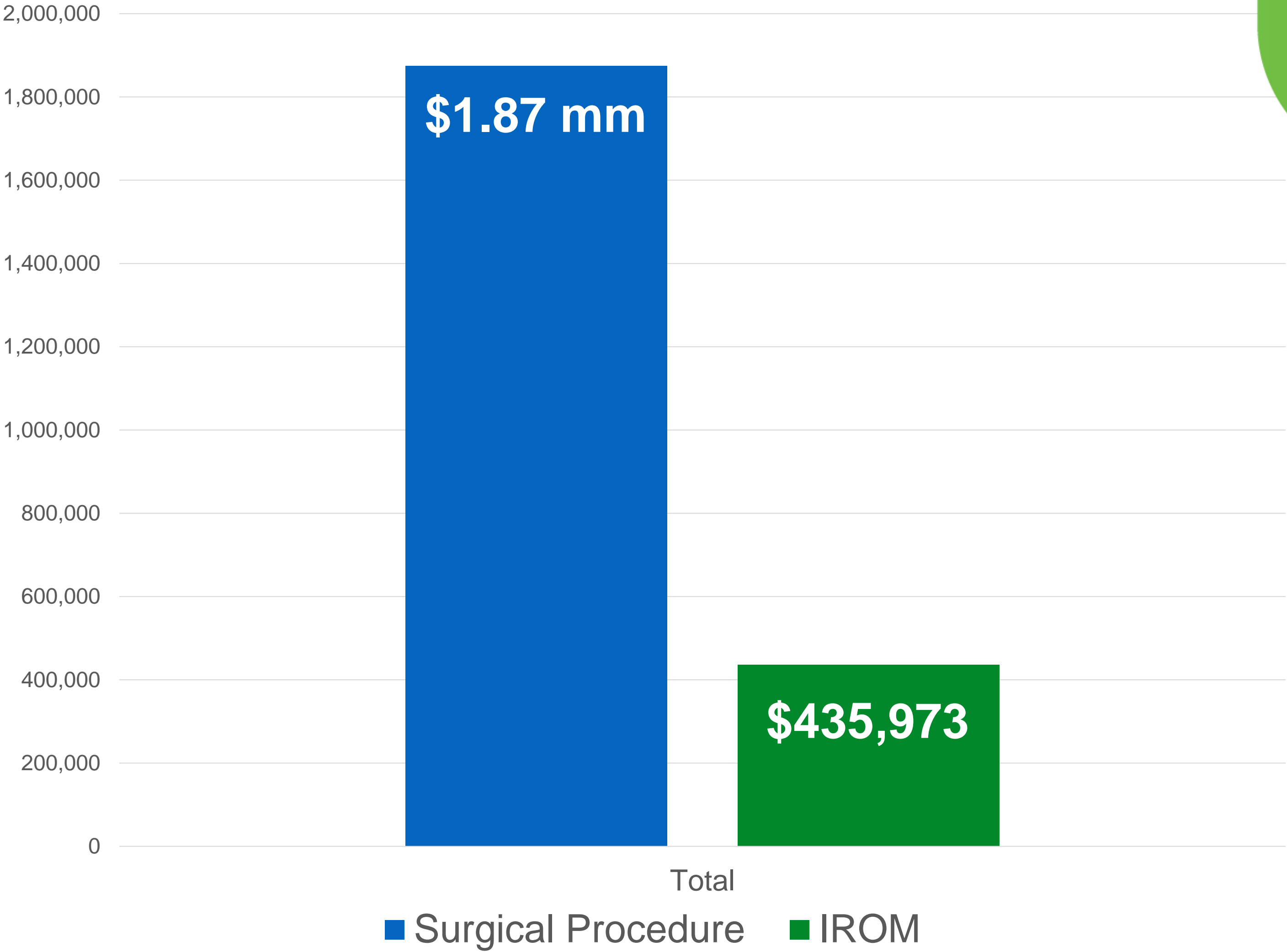
**Patient B: 50 year old male with  
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# Knee / Meniscus

## Orthopedic Surgery Costs vs. IROM Costs



### SUMMARY

The Iowa Study  
Actual Savings  
by Adding  
STEPS / IROM to  
Self-Insured Fund:

- 1. 53 Employees avoided recommended surgery
- 2. Cost-savings to company: \$1,438,743

# STEPS - Frequently Asked Questions

## What kind of outcome can I expect?

- Open communication to work the case
- Early rehabilitation
- Expedited return to work (RTW)

These reasons are because with the procedure, the patient is generally moving the injured joint within hours of the procedure, therefore maintaining range of motion. In addition, our post-procedure compliance is 80-100%, which increases the range of motion during the recovery phase and therefore expedites RTW. This is typically not possible with surgical alternatives. This is what we would consider a successful case.

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# SUMMARY AND GOALS

- I. Use STEPS and IROM to to help patients improve their musculoskeletal condition and return to work without major invasive surgery.
- II. Save the employer approximately 80% of their costs attributed to orthopedic surgery and pre/post-operation care.
- III. Create a “win-win” for the organization: *happy, healthy employees who can improve and return to work without surgery AND double-digit savings for the organization in annual orthopedic expenditures.*